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EXAMINER

LERNER, MARTIN

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/688,443	Applicant(s) RAMBO, DARWIN	
	Examiner MARTIN LERNER	Art Unit 2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 to 103 is/are pending in the application.
- 4a) Of the above claim(s) 5 to 36 and 52 to 103 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 37 to 51 is/are allowed.
- 6) ☒ Claim(s) 1 to 4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election of Group V, Claims 1 to 4 and 37 to 51, in the reply filed on 20 March 2008 is acknowledged. Because Applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 5 to 36 and 52 to 103 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 20 March 2008.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by *Nyström et al.*
Regarding independent claim 1, *Nyström et al.* discloses an encoding mode control method, comprising:

“generating at least one parameter using at least one word of a voice data stream” – a received code word is channel decoded in every possible mode 1, . . . , N by performing the usual decoding steps for each respective mode; the result is N estimates of the originally transmitted user data, one estimate for each mode (column 4, lines 43 to 49: Figure 5: Step 12); the N estimates are “at least one parameter” generated from “at least one word” of received code word data; the received code word data is from “a voice data stream” because the data consists of speech frames as a final code word (column 2, line 66 to column 3, line 11: Figure 1);

“identifying, based on said at least one parameter, a type of encoding used in generating said voice data stream” – a code word estimate that best matches the received code word is considered to be the correct code word; estimates are used for channel encoding and in a mode decision; a speech decoder may switch to the corresponding speech decoding mode (column 4, lines 50 to 64: Figure 5: Steps 14 and 16); thus, “a type of encoding used in generating said voice data stream” is identified from the N estimates with the code word estimate that best matches the received code word corresponding to the type of channel coding mode.

5. Claims 1 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by *Alley* (“Automatic Identification of Voice Band Telephony Coding Schemes using Neural Networks”).

Regarding independent claim 1, *Alley* discloses a method of non-intrusively determining a type of coding method present on a telephony channel, comprising:

“generating at least one parameter using at least one word of a voice data stream” – a least mean square (LMS) filter is placed across a channel to be identified, and allowed to adapt until it reaches its steady state behaviour; a preprocessor produces statistics on the behaviour of the adaptive filter parameters; the statistical parameters used are: the variance of the maximum adaptive filter coefficient, the measured input signal power, and the probability distribution histogram of the ‘error’ output of the adaptive filter (Page 1156, Left Column); these statistical parameters generated by the preprocessor are “at least one parameter”; the data being encoded on a telephone channel is “a voice data stream”, implicitly, because a telephone channel encodes speech; moreover, in the current context, the term “at least one word” of data means a digital byte stream, e.g. a voice data stream encoded by PCM, μ -law, or A-law; logarithmic A-law, μ -law, ADPCM, and linear predictive coding (LPC) all produce “at least one word” of voice data, implicitly;

“identifying, based on said at least one parameter, a type of encoding used in generating said voice data stream” – a type of coding present on a telephony channel is identified by observation of the behaviour of the adaptive filter taps and listening to the adaptive filter ‘error’ signal (Page 1156, Left Column); thus, statistical parameters from a voice data stream of a telephony channel are analyzed to determine what encoding, e.g. PCM, μ -law, or A-law, was employed to generate the voice data stream.

Regarding claim 4, *Alley* discloses that one of the statistical parameters employed to identify a type of encoding is a probability distribution histogram of the ‘error’ output of the adaptive filter (Page 1156, Left Column); the MSE probability

histogram is produced by finding the maximum and minimum values of the MSE, and dividing the range into 20 bins, where the number of samples in each bin is termed the frequency of occurrence (Page 1156: Right Column: Figure 2); each of the bins in the MSE probability histogram represents “a range of values” for a parameter of the mean square error (MSE) produced from the data on the telephony channel.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Alley* (“Automatic Identification of Voice Band Telephony Coding Schemes using Neural Networks”) in view of *Zhang et al.* (‘963).

Alley discloses identifying encoding methods including logarithmic A-law and μ -law, but omits identifying encoding methods including linear G.711. However, it is maintained that G.711 is a common coding standard, known as pulse code modulation (PCM), for encoding speech in telephone networks. Generally, standard PCM is linear G.711 for encoding speech, but A-law and μ -law are nonlinear or logarithmic versions of G.711. (See *Wikipedia*.) Specifically, *Zhang et al.* (‘963) teaches a method of identifying an encoding type from the internationally standardized PCM protocol set forth in ITU-T Recommendation G.711, including A-law and μ -law. (Column 1, Lines 20

to 64) An objective is to enable a receive modem to accurately identify an encoding law, regardless of whether the transmission levels are A-law or μ -law. (Column 2, Lines 15 to 25) It would have been obvious to one having ordinary skill in the art to identify encoding modes of linear G.711, *i.e.* standard PCM, or G.711 A-law and μ -law as taught by *Zhang et al.* ('963) in a method of automatic identification of voice band telephony coding of *Alley* for a purpose of enabling a modem to accurately identify an encoding mode regardless of transmission levels.

8. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over *Alley* ("*Automatic Identification of Voice Band Telephony Coding Schemes using Neural Networks*") in view of *Kim*.

Alley does not expressly disclose that a voice data stream is stored in a voice data stream file. However, it is well known to store almost any data that can be transmitted as an obvious expedient, including storing transmitted voice data, so that the data may be reproduced at a later time. *Kim* provides a suggestion from prior art that downloaded information transmitted by a server can be stored as digital information files. ([0006]) It would have been obvious to one having ordinary skill in the art to store the voice sample frames of *Alley* in a form of digital information files as suggested by *Kim* so that the transmitted voice samples frames may be reproduced at a later time.

Allowable Subject Matter

9. Claims 37 to 51 are allowed.

Response to Arguments

10. Applicant's arguments filed 26 November 2007 have been fully considered but they are not persuasive.

Regarding the rejection of independent claim 1 as being anticipated by *Nyström et al.*, Applicant argues that the reference does not disclose “generating at least one parameter using at least one word of a voice data stream”. Applicant says that *Nyström et al.* discloses decoding a received codeword in a number (N) of different possible modes in a trial fashion, but that this has nothing to do with generating at least one parameter using at least one word of a voice data stream. This position is traversed.

Nyström et al. discloses producing N estimates of the originally transmitted user data, where one estimate is produced for each of N possible encoding modes. Then, each of the N estimates is compared to the received code word to find the estimate that best matches. The best matching estimate corresponds to the encoding and decoding mode of the code word. (Column 4, Lines 43 to 63: Figure 5: Steps 12, 14, and 16) Here, each of the N estimates is "at least one parameter" that is generated from a received code word. The received code word corresponds to “a voice data stream” because a final code word represents frames of encoded speech. (Column 2, Line 66 to Column 3, Line 10: Figure 1) Thus, *Nyström et al.* anticipates independent claim 1.

Regarding the rejection of independent claim 1 as being anticipated by *Alley*, Applicant argues that the reference does not disclose “at least one parameter using at

least one word of a voice data stream". Applicant says that *Alley* discloses parameters of a filter, but not at least one word of a voice data stream. This is not persuasive.

The parameters of the adaptive filter are derived from a voice data stream. The adaptive filter is placed in a telephony channel, and a telephony channel transmits a voice data stream, implicitly. Those skilled in the art would understand that the purpose of the adaptive filter is to model the behaviour of the data in the telephony channel. Thus, the adaptive filter reaches a steady state behaviour when it models what is being produced by the channel. An adaptive filter is not employed to modify the content of the channel, but to produce a model of the channel as adaptive filter coefficients. It is incorrect to say that the adaptive filter parameters are only parameters of the filter when the purpose of the adaptive filter is to produce parameters that model the data transmitted by the channel.

Therefore, the rejections of claim 1 under 35 U.S.C. §102(b) as being anticipated by *Nyström et al.*, of claims 1 and 4 under 35 U.S.C. §102(b) as being anticipated by *Alley*, of claim 2 under 35 U.S.C. §103(a) as being unpatentable over *Alley* in view of *Zhang et al.* ('963), and of claim 3 under 35 U.S.C. §103(a) as being unpatentable over *Alley* in view of *Kim*, are proper.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

Okunev et al. discloses related prior art directed to distinguishing between coding of received signal in a PCM modem between A-law and μ -law.

Wikipedia provides a definition for G.711.

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARTIN LERNER whose telephone number is (571)272-7608. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2626

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Martin Lerner/
Primary Examiner, Art Unit 2626
4/25/08